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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/549,837	06/29/2006	Tuan Quoc Ly	30698/CDT386	3759

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EXAMINER	
MABRY, JOHN	

ART UNIT	PAPER NUMBER
1625	

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01/30/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/549,837	LY, TUAN QUOC	
	Examiner	Art Unit	
	JOHN MABRY	1625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12/05/2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) *5* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4 and 6-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Response to Amendment(s)

Applicant's response on December 5, 2008 filed in response to the Office Action dated June 5, 2008 has been received and duly noted.

In view of this response, the status of the rejections/objections of record is as follows:

Status of the Claims

Claims 1-4 and 6-17 are pending and rejected.

Claim 5 is directed towards non-elected subject matter.

35 USC § 112 Rejection(s)

The 112-2nd rejection of claims 1-4 and 6-17 regarding the "substituents", more specifically, "optionally substituted" has not been overcome in view of Applicants argument. What are variables optionally substituted with? The Specification does not provide a standard for ascertaining how this term is defined. In Applicant's argument, the Examiner is directed to page 5 of Specification which states the following:

> wherein each R is independently selected from H or a substituent. Preferably, each R is hydrogen.

What does Applicant intend by this term "substituent"? This term could be anything? Applicants do not have any written description for what it could be hence it is indefinite as to the scope of the claimed substituents.

The 112-1st rejection of claims 1-4 and 6-17 regarding the scope of enablement for "Ar1, Ar2, L and M" have not been overcome in view of Applicants arguments. As

described in previous Non-Final Office Action, Ar1, Ar2 and L and M are not enabled to be all aryl and heteroaryl compounds and all metals as claimed, respectively.

Applicants have argued that the term “aryl and heteroaryl” are well-established terms of art pertaining to claimed invention. This is not persuasive because there are inconsistent and differing uses of the word "aryl and heteroaryl" in the art. The widely used "Condensed Chemical Dictionary" states that the term heteroaryl means - designating a closed-ring structure, usually of either 5 or 6 members, in which one or more of the atoms in the ring is replaced with sulfur or nitrogen (see page 566 - the term "heteroaromatic" references the term "heterocyclic", so Examiner will used the definition of heterocyclic with the term heteroaryl). The widely used textbook "Organic Chemistry” by *Fessenden* says on page 451 that the compounds must be aromatic but that any and all atoms in the ring may be selected from the entire periodic table, not just selected from sulfur or nitrogen. The less widely used textbook “Introduction to Organic Chemistry” by *Streitwieser* on page 1061 defines “heterocycles” as both aromatic and nonaromatic. It further implies that the nitrogen, oxygen and sulfur atoms are commonly meant and that any size ring falls under the rubic of the word. A similar rationale can be used for the term "aryl".

The Board of Patent Appeals and Interferences held, and the court affirmed *In re* Hawkins 179 USPQ 421 that “It must also be noted that the claim terminology is so broad that it does not even require that the heterocyclic group contain a carbon atom. Heterocyclic ring systems containing phosphorus, boron, silicon and other elements in addition to nitrogen and oxygen without the inclusion of carbon atoms are well-known

and could not be expected to produce compounds having the properties herein claimed." Applicant is clearly not enabled for the full scope of the terms "aryl and heteroaryl" as universally defined.

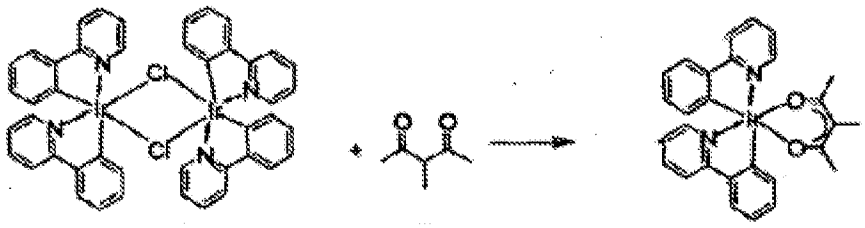
Additionally, Applicant has not provided sufficient guidance in the Experimental for one of ordinary in the art to take any aryl and/or heteroaryl group and incorporate it into Applicant's invention. As stated in previous Action, Applicant has only provided guidance where Ar1-Ar2 are phenyl-pyridinyl. In regards to Applicant's request for clarification, Examiner means that Applicant is enabled for Ar1, Ar2 and L being pyridinyl and phenyl, M being Ir and not enabled when Ar1, Ar2 and L are different. For example, Applicant has not provided guidance when (Ar1-Ar2)n, where n-3 to be phenyl-phenyl, phenyl-pyridinyl and pyridinyl-pyridinyl.

Claim Rejections - 35 USC § 102

It seems as if Applicant has replied to Examiner's 102 rejections anticipated by Kamatani (EP 1,349,435), Tsuboyama (EP 1,239,526), Lamansky (Inorg. Chem. 2001, 40, 1704-1711) and Lamansky (WO 02/15645) all in one comprehensive argument. Applicant did not specifically argue each individual rejection that was presented to Applicant individually as shown in previous Office Action.

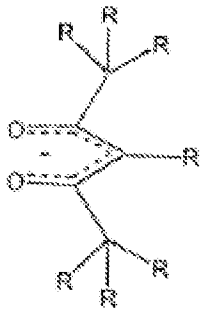
Rejections of claims 1-4, 6-8 and 10, 12 and 14-16 are maintained under 35 U.S.C. 102(e) as being anticipated by Kamatani (EP 1,349,435), Tsuboyama (EP 1,239,526), Lamansky (Inorg. Chem. 2001, 40, 1704-1711) and Lamansky (WO 02/15645).

For example, as disclosed in previous Office Action, Kamatani discloses a method of forming a metal complex of Formula M(Ar1Ar2)nL comprising of a step of reacting a compound of Formula I with bidentate ligand (wherein Ar1 and Ar2 = phenylpyridinyl) with an enabling ligand wherein R1=H in a two-step process (see pages 42 and 48–50).



Applicant argues that acac, pic and sal can be interpreted as enabling ligands capable of breaking the halogen bridge of the complex and they are not bidentate ligands capable of forming at least one carbon–to-metal bond with the metal.

Firstly, Applicant defines an “enabling ligand” as being a bidentate ligand of formula (IIb):



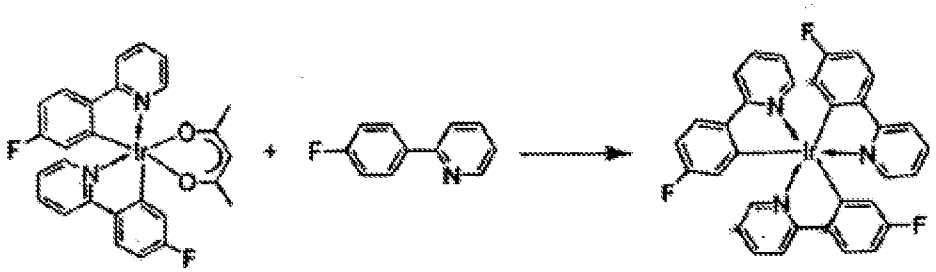
(IIb)

(see bottom of page 4 and top of page 5 of Specification).

Applicant did not claim that the “enabling ligand” must be bidentate ligands capable of forming at least one carbon–to-metal bond with the metal. According to the

Specification, the “enabling ligand” can be a monodentate ligand or a bidentate ligand (see bottom of page 4 and top of page 5 of Specification).

Secondly, Applicant argues that the applied art specifically teaches that the monomeric complex must be further reacted in a separate step with a second bidentate ligand, which is capable of forming at least one carbon-to-metal bond with the metal complex to obtain complexes of formula M(Ar1Ar2)nL. Examiner respectfully disagrees with Applicant’s argument. EP '435 clearly illustrates a dimeric complex along with "acac" being reacted with third monomer compound to form complexes of claimed formula M(Ar1Ar2)nL (see page 50).



In claim 1, Applicant claims “a method of forming a metal complex of formula M(Ar1Ar2)nL comprising the step of reacting a compound of formula I with a bidentate ligand…in the presence of an enabling ligand that is capable of breaking the halogen bridge…” Stated rejections falls with in the scope of Applicant’s claimed invention.

Furthermore, Examiner is perplexed by Applicant’s explanation of arguments set forth. Applicant argues that the “enabling ligand" is bidentate ligands capable of forming at least one carbon–to-metal bond with the metal. In the contrast, Applicant claims (claim 6) that the enabling ligand is a monodentate ligand. What does Applicant intend?

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Conclusion

Applicant is respectfully reminded that it is required that all claims be amended to elected group. Examiner also warns Applicant not to introduce new matter when amending.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Mabry, PhD whose telephone number is (571) 270-1967. The examiner can normally be reached on M-F from 9am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the Examiner's primary examiner can be reached at (571) 272-0684, first, or the Examiner's supervisor, Janet Andres, PhD, can be reached at (571) 272-0867. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

/John Mabry/
Examiner
Art Unit 1625

/Rita J. Desai/
Primary Examiner, Art Unit 1625